UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,610	11/21/2003	Gi Hyeong Do	9988.071.00-US	8195

30827 7590 08/03/2010

MCKENNA LONG & ALDRIDGE LLP
1900 K STREET, NW
WASHINGTON, DC 20006

EXAMINER	
GRAVINI, STEPHEN MICHAEL	
ART UNIT	PAPER NUMBER
3743	
MAIL DATE	DELIVERY MODE
08/03/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/717,610	DO, GI HYEONG	
	Examiner	Art Unit	
	Stephen M. Gravini	3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 June 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,9-14 and 16-26* is/are pending in the application.

4a) Of the above claim(s) *9-14 and 22-26* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 16-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) *9-14 and 22-26* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121 :

I. Claims 1 and 16-21, drawn to a subcombination, classified in class 34, subclass 493.

II. Claims 22-26, drawn to an subcombination, classified in class 34, subclass 606.

Inventions of group I and group II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination group II has separate utility such as a heater for heating air and a motor for rotating a drum are differentially driven for the drying procedure which is divided by the difference of the temperature variation rate as the drying procedure proceeds, which is not a limitation in the group I invention. See MPEP § 806.05(d).

The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to

provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

Newly submitted claims 22-26 are directed to an invention that is independent or distinct from the invention originally claimed for the reasons set forth above.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1 and 16-21 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Under current Office practice, claim 1 is not eligible for a patent as outlined in the subject matter eligibility test (attached). Under that test, the claims are directed to a method but does not require the method to be implemented by a particular machine or transform a particular article because the claimed initiating, measuring, calculating, detecting, and performing steps does not qualify as eligible subject matter.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

Claims 1 and 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krüger (US 4,412,389) in view of Wentzlaff (US 5,682,684) in view of Gestblom et al. (US 4,257,170). The claimed invention is reasonably and broadly construed, in light of the accompanying specification, to be disclosed by Krüger as comprising:

initiating a drying process at column 2 lines 18-24 wherein the disclosed beginning the early phase of a drying process with the drying system is turned on is considered to expressly anticipate the claimed drying procedure initiation because both show the initial beginning of a drying process;

measuring a temperature at column 2 lines 35-45 wherein the disclosed measuring the temperature difference is considered to expressly disclose the claimed temperature measurement because both steps measure temperature;

calculating a temperature variation rate at column 1 lines 50-65 wherein the disclosed calculating time or duration from the determined gradient is considered to expressly anticipate the claimed temperature variation rate calculation because a temperature variation rate and gradient duration calculation are the same patentable steps to those skilled in the art;

calculating a remaining drying time at column 5 lines 28-57 wherein the disclosed dryer operating time calculation based on a temperature gradient of change in temperature per change in time ($\Delta\theta/\Delta t$) is considered to expressly anticipate the claimed drying time temperature variation rate calculation time because both steps use a change in temperature per change in time which to one skilled in the art defines a temperature variation rate;

performing the drying procedure for the calculated remaining drying time at column 5 line 59 through column 6 line 64 wherein the disclosed operating duration is considered to expressly disclose the claimed drying procedure calculated time performance because both steps operate drying based on a time duration calculated

from earlier disclosed variables. Krüger also expressly discloses the claimed step of calculating a remaining drying time, wherein drying for the remaining drying time completes the drying procedure at column 6 lines 38-56 and inherently disclose the claimed steps of wherein the remaining drying time is based on a known drying pattern, the known drying pattern varying according to an amount and type of laundry at column 3 line 53 through column 4 line 64 because variable amounts and types of laundry will necessarily have different remaining drying time basis such that measure temperature/time changes will change remaining drying times. Krüger discloses the claimed invention except for the claimed steps of calculating a plurality of temperature variation rates. Wentzlaff , another dryer control method, discloses steps of calculating a plurality of temperature variation rates at column 8 lines 1-59 because the disclosed start temperature values at minute intervals and system response represent a variation rate calculation since both measure a value and provide a response function and because the disclosed considerable higher heating determines a substantial temperature increase in variation rate, as a function of a plurality of temperature variation rates, since both are an iterative process to determine a laundry dryer control method. It would have been obvious to one skilled in the art to combine the teachings of Krüger with the steps of calculating a plurality of temperature variation rates and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates, disclosed in Wentzlaff, for the purpose of applying a variable process such that an averaged measured value of air temperature during a quasi-steady-state phase to keep approximate equilibrium of heat

removal from laundry by recorded and stored memory so that in making a decision as to which of the memorized process courses should be considered for the further handling of the load of laundry and a relevant decision data until the quasi-steady-state phase is reached as suggested in the summary of the invention section of Wentzlaff, especially beginning at column 3 line 43. Furthermore, Krüger in view of Wentzlaff discloses the invention, as rejected, except for the feature of detecting whether there is a substantial increase in the temperature variation rate with respect to the temperature variation rate of initiating the drying procedure. Gestblom, another dryer control method, discloses that feature at column 3 lined 65 through column 4 line 40 and shown in figures 1 and 3. It would have been obvious to one skilled in the art to combine the teachings of Krüger in view of Wentzlaff with the detecting step disclosed in Gestblom for the purpose of optimizing the use of energy in a drying process while minimizing the drying time of items to be dried. Finally, Krüger in view of Wentzlaff in view of Gestblom discloses the invention as claimed, except for the recited procedure divided periods, plural time periods, and differing motors with a cooling period. It would have been an obvious matter of design choice to recite those features, since the teachings of Krüger in view of Wentzlaff in view of Gestblom would perform the invention, as claimed, regardless of those features.

Response to Arguments

Applicants' arguments have been considered but are moot in view of the new grounds of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Each cited reference discloses one or more features of the claimed invention.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Gravini whose telephone number is 571 272 4875. The examiner can normally be reached on normal weekday business hours (east coast time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth B. Rinehart can be reached on 571 272 4881. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen M. Gravini/
Primary Examiner, Art Unit 3743